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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,789	06/28/2005	Jens A. Hansen	G3781.0007/P007	9876
24998 7590 12/29/2009 DICKSTEIN SHAPIRO LLP 1825 EYE STREET NW Washington, DC 20006-5403				
EXAMINER				
OLADAPO, TAIWO				
ART UNIT		PAPER NUMBER		
1797				
MAIL DATE		DELIVERY MODE		
12/29/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/518,789

**Applicant(s)**

HANSEN ET AL.

**Examiner**

TAIWO OLADAPO

**Art Unit**

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 November 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 11-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. The amendment dated 11/23/2009 has been considered and entered for the record. The argument is persuasive therefore the rejections are withdrawn. New rejections are made below.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1 – 8, 11 – 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Partridge et al. (US 4,820,402) in view of Gentry (US 6,261,441)

6. In regards to claim 1 – 4, 11, 13, Partridge teaches the process of hydrocracking feedstock to form middle distillates using beta zeolites (abstract, column 2 lines 65 – 68). In Example 11, Partridge teaches using a matrix having catalyst B which comprises nickel-tungsten (Ni-W) hydrogenation component, beta zeolite having silica:alumina ratio of 30:1, and alumina support (column 12 line 55 – column 13 line 55). The alumina support is amorphous alumina according to the claimed limitation. Partridge teaches the zeolites of the invention can have a silica:alumina ratio of at least 50:1 (abstract) such as 100:1 or 200:1 which meets the claimed limitation (column 2 lines 39 – 40). Since the ion exchange capacity acidity index and the NH<sub>3</sub>-TPD acidity index values are dependent on the silica:alumina ratio of the zeolite, they would overlap the limitations of the claim. Partridge does not recite the percentage of zeolite in the support matrix.

Gentry similarly teaches a process wherein beta zeolites can be used for hydrocracking to produce middle distillates (column 7 line 50 – column 8 line 65). Gentry teaches the catalyst support can comprise crystalline component such as beta zeolites and amorphous component such alumina, wherein the crystalline component is present at from 40 to 80% which overlaps the claimed range of the amount of zeolites present in the catalyst (column 8 lines 8 – 12, lines 29 – 36). Correspondingly, the amorphous portion will be present at from 20% up to 60% by weight of the catalyst. In the case where the claimed ranges “overlap or lie inside ranges disclosed by

the prior art” a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the percentage of crystalline materials taught by Gentry in preparing the catalysts of Partridge, as Gentry teaches suitable percentages of beta zeolites that can be used in the catalyst matrix.

7. In regards to claims 5 – 7, In Example 11, Partridge and Gentry teach the process wherein the hydrogenation components include metals such as nickel as stated above.

8. In regards to claim 8, Partridge and Gentry teach the process wherein the matrix can comprise from 20 up to 60% of amorphous inorganic oxide which overlaps the claimed range as previously stated.

9. In regards to claim 12, Partridge and Gentry teach the process. Partridge teaches in Example 11 a process wherein only a single type of catalyst (B) is used in the hydrocracking process to form middle distillates.

10. Claim 1 – 8, 11 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Partridge et al. (US 4,820,402) in view of Fragelli et al. (US 6,103,101)

11. In regards to claim 1 – 8, 11, 13, 14, Partridge teaches the process of hydrocracking feedstock to form middle distillates using beta zeolites (abstract, column 2 lines 65 – 68). In Example 11, Partridge teaches using a matrix having catalyst B which comprises nickel-tungsten (Ni-W) hydrogenation component, beta zeolite having silica:alumina ratio of 30:1, and alumina support (column 12 line 55 – column 13 line 55). The alumina support is amorphous alumina according to the claimed limitation. Partridge teaches the zeolites of the invention can have a

silica:alumina ratio of at least 50:1 (abstract) such as 100:1 or 200:1 which meets the claimed limitation (column 2 lines 39 – 40). Since the ion exchange capacity acidity index and the  $\text{NH}_3$ -TPD acidity index values are dependent on the silica:alumina ratio of the zeolite, they would overlap the limitations of the claim. Partridge does not recite the percentage of zeolite in the support matrix.

Fragelli teaches a process of hydrocracking using zeolitic hydrocracking catalyst having an amorphous alumina support and hydrogenation components such as nickel and tungsten similar to the invention of Partridge (column 7 lines 14 – 23), wherein the catalyst can have crystallinity ranging from 1 to 25% (column 7 lines 41 – 43) which overlaps the claimed ranges. Correspondingly the amorphous component of the catalyst will range from 26 to 75% by weight.

In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the percentage of crystalline materials taught by Fragelli in preparing the catalysts of Partridge, as Fragelli teaches suitable percentages of beta zeolites that can be used in the catalyst matrix.

12. In regards to claim 12, Partridge and Fragelli teach the process. Partridge, in Example 11 teaches only a single type of catalyst (B) is used in the hydrocracking process to form middle distillates.

***Response to Arguments***

13. Applicant's arguments have been fully considered but are moot in view of new grounds of rejection.

14. The applicants assert that the previous rejection relied on portions of Gentry which relate to dewaxing processes not hydrocracking processes as required by the claim. A new reference is combined with Gentry to teach hydrocracking processes having silica:alumina ratio's as in the claim, which provides similar acidity indices as the claim. Therefore the argument is moot.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAIWO OLADAPO whose telephone number is (571)270-3723. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571)272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TO

/Glenn A Caldarola/  
Acting SPE of Art Unit 1797